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states:(71) Applicant: **NGK SPARK PLUG CO LTD**(72) Inventor: **MAEDA SHOJI**

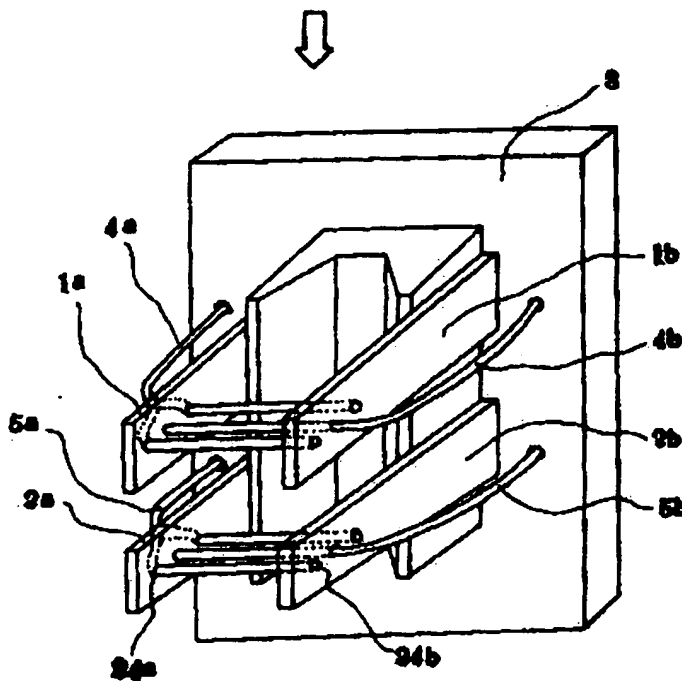
(74) Representative:

**(54) DETECTOR FOR PARTICULATE MATERIAL IN EXHAUST GAS**

(57) Abstract:

**PURPOSE:** To obtain a detector capable of functioning accurately for a long time by supporting at least a measuring electrode with a ceramic insulator with a heat generating body buried therein among a discharge electrode and the measuring electrode.

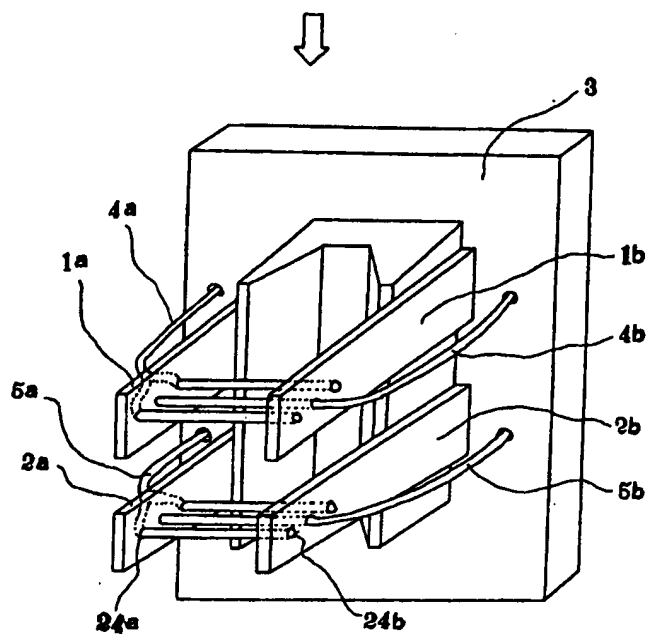
**CONSTITUTION:** A device is mounted to an exhaust tube for an exhaust gas to flow in the direction of the arrow. Insulators 1a and 1b on the upstream side of an exhaust gas passage support a discharge electrode comprising an ground pole 4a and a negative high voltage electrode 4b while ceramic insulators 2a and 2b are fixed separately on a flange 3 on the down stream side thereof. A negative DC voltage is applied to the negative high voltage electrode 4b to charge particulate material in the exhaust gas negatively. On the other hand, the ceramic insulators 2a and 2b has a heat generating body therein and support a measuring electrode comprising a ground pole 5a and a positive low voltage electrode 5b to form an electrostatic field between the measuring electrode and the ground pole 5a, where the particulate material charged negatively is deflected to the positive low voltage electrode 5b



high in the potential. Thus, an ion current opposite in the direction to it flows to allow the detection of changes in the current proportional to the number of the particulate material.

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